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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,061	03/30/2004	Jiro Kondo	2018-871	1290
23117	7590	09/22/2005	EXAMINER	
NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			RIDDLE, KYLE M	
			ART UNIT	PAPER NUMBER
			3748	

DATE MAILED: 09/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/812,061	Applicant(s) KONDO, JIRO	
	Examiner Kyle M. Riddle	Art Unit 3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>03302004</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: Page 4, line 7, "worseninged" should read --worsening--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Oyama (U.S. Patent 6,155,654).

Oyama discloses an electromagnetic proportional control valve comprising:

- a spool guide bore 3, supply port 4, output port 5, exhaust port 6, first and second fluid chambers 7, 8, and a spool 9 (column 1, lines 25-30; Figure 1);
- increasing current to move the spool (column 1, lines 62-67);
- changing the frequency or cycle to be longer with increased current (column 3, lines 12-20; column 4, lines 60-67 with column 5, lines 1-2; column 5, lines 12-17);
- different frequencies or cycles for different regions or stages (column 3, lines 12-20; column 4, lines 60-67 with column 5, lines 1-2; column 5, lines 12-17);
- varying the on and off times of the frequency (column 5, lines 35-42).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5, 6, and 8 are rejected under 35 U.S.C. 103(a) as being obvious over Oyama.

Oyama discloses an electromagnetic proportional control valve comprising a spool guide bore, supply port, output port, exhaust port, first and second fluid chambers, and a spool, increasing current to move the spool, changing the frequency or cycle to be longer with increased current, different frequencies or cycles for different regions or stages, and varying the on and off times of the frequency.

Re claims 5 and 8, Oyama fails to disclose the proportional control valve being used specifically for a variable valve cam timing mechanism. Oyama, however, suggests the method of controlling a proportional control valve being used on any pressure control valve (column 3, lines 36-38), and the use of a proportional control valve with a spool in variable valve timing mechanism is well known in the art, the inclusion of such being a matter of obvious choice to one of ordinary skill.

Re claim 6, Oyama fails to disclose specifically a yoke with a magnetic flux varying component. The moveable spool 9 disclosed by Oyama has lands 9a, 9b cooperating with electromagnet 14 (column 1, lines 43-55), the end land 9b being shaped as a yoke (Figure 2). The use of yokes and the transmittal of a magnetic flux to a moveable portion of the spool is well known in the art, the inclusion of such being an obvious choice to one of ordinary skill.

Conclusion

6. The IDS (PTO-1449) filed on 30 March 2004 has been considered. An initialized copy is attached hereto.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure and consists of 2 patents.

- Chin et al. (U.S. Patent 5,929,619) disclose a load responsive regulator where an increase in the current results in a longer duty cycle.

- Ekdahl et al. (U.S. Patent 6,736,094) disclose a VCT solenoid dither frequency control with switchable frequencies.

Communication.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kyle M. Riddle whose telephone number is (571) 272-4864. The examiner can normally be reached on M-F (07:30-5:00) Second Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Art Unit: 3748



Kyle M. Riddle

Examiner

Art Unit 3748

kmr



THOMAS DENION

SUPERVISORY PATENT EXAMINER

TECHNOLOGY CENTER 3700